



PLANETARY GEAR REDUCER
PGR Micro Series | Precision Planetary Gear Reducer.

Micro Series | 8 / 10 / 12 / 14 / 16 mm miniature planetary gear reducer.

MICRO SERIES SELECTION

Website Group	ARTUS Model	Size	Stages	Reduction Ratios	Rated Torque	Input Speed
Micro Series	PGR-08	8 mm	1-4	3.8-731.16	0.2-0.4 kgf·cm	≤ 8000 rpm
	PGR-10	10 mm	1-4	3.5-509.1	1.3-2.0 kgf·cm	≤ 8000 rpm
	PGR-12	12 mm	1-4	3.5-509.1	2.0-4.2 kgf·cm	≤ 8000 rpm
	PGR-14	14 mm	1-4	3.75-471.6	3.5-6.0 kgf·cm	≤ 8000 rpm
	PGR-16	16 mm	1-4	3.85-459.5	4.0-9.0 kgf·cm	≤ 8000 rpm



PLANETARY GEAR REDUCER

PGR-08 | Micro Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-08
SIZE / POSITIONING	Ø8 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.8 / 4.5 / 5.2	14.4 / 17.1 / 19.8 / 20.3 / 23.4 / 27	54.9 / 65 / 75.1 / 76.95 / 88.9 / 91.1 / 102.75 / 105.3 / 121.7 / 140.6	208.5 / 246.9 / 285.3 / 292.4 / 337.9 / 346.3 / 390.46 / 400.14 / 410.1 / 462.4 / 473.85 / 534.3 / 547.56 / 632.74 / 731.16
Gearbox Length L	mm	10.15	12.8	15.45	18.1
Rated Permissible Torque	kgf·cm	0.2	0.25	0.3	0.4
Instantaneous Permissible Torque	kgf·cm	0.4	0.5	0.6	0.8
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 0.4	≤ 0.4	≤ 0.4	≤ 0.4
Axial Load	kgf	≤ 0.1	≤ 0.1	≤ 0.1	≤ 0.1
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.15

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER
PGR-10 | Micro Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-10
SIZE / POSITIONING	Ø10 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.5 / 4 / 4.75	12.25 / 14 / 16 / 16.6 / 19 / 22.6	42.9 / 49 / 56 / 58.2 / 64 / 66.5 / 76 / 79 / 90.25 / 107.2	150.1 / 171.5 / 196 / 203.7 / 224 / 232.7 / 256 / 266 / 276.4 / 304 / 315.9 / 361 / 375.1 / 428.7 / 509.1
Gearbox Length L	mm	10.25	13	15.75	18.5
Rated Permissible Torque	kgf·cm	1.3	1.5	1.8	2.0
Instantaneous Permissible Torque	kgf·cm	2.6	3.0	3.6	4.0
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 0.6	≤ 0.6	≤ 0.6	≤ 0.6
Axial Load	kgf	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.15
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.15	≤ 0.15	≤ 0.15	≤ 0.15

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER
PGR-12 | Micro Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-12
SIZE / POSITIONING	Ø12 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.5 / 4 / 4.75	12.25 / 14 / 16 / 16.6 / 19 / 22.6	42.9 / 49 / 56 / 58.2 / 64 / 66.5 / 76 / 79 / 90.25 / 107.2	150.1 / 171.5 / 196 / 203.7 / 224 / 232.7 / 256 / 266 / 276.4 / 304 / 315.9 / 361 / 375.1 / 428.7 / 509.1
Gearbox Length L	mm	11.35	14.1	16.85	19.6
Rated Permissible Torque	kgf·cm	2.0	3.0	3.6	4.2
Instantaneous Permissible Torque	kgf·cm	4.0	6.0	7.2	8.4
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 0.8	≤ 0.8	≤ 0.8	≤ 0.8
Axial Load	kgf	≤ 0.25	≤ 0.25	≤ 0.25	≤ 0.25
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER

PGR-14 | Micro Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-14
SIZE / POSITIONING	Ø14 mm 1–4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.75 / 4.38 / 4.66	14 / 16.4 / 17.5 / 19.2 / 20.4 / 21.7	52.7 / 61.6 / 65.5 / 71.9 / 76.5 / 81.4 / 84 / 89.4 / 95.1 / 101.2	197.75 / 231 / 245.75 / 269.8 / 287 / 305.4 / 315.1 / 335.25 / 356.7 / 368 / 379.5 / 391.6 / 416.6 / 443.2 / 471.6
Gearbox Length L	mm	15.2	19	22.8	26.6
Rated Permissible Torque	kgf·cm	3.5	4.0	5.0	6.0
Instantaneous Permissible Torque	kgf·cm	7.0	8.0	10.0	12.0
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 0.8	≤ 0.8	≤ 0.8	≤ 0.8
Axial Load	kgf	≤ 0.25	≤ 0.25	≤ 0.25	≤ 0.25
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120



PLANETARY GEAR REDUCER

PGR-16 | Micro Series Planetary Gear Reducer Specification

PRODUCT PLATFORM

ARTUS MODEL	PGR-16
SIZE / POSITIONING	Ø16 mm 1-4 stages

Parameter	Unit	1 Stage	2 Stage	3 Stage	4 Stage
Reduction Ratio	:1	3.85 / 4.33 / 4.63	14.8 / 16.7 / 17.8 / 18.7 / 20 / 21.4	57.1 / 64.2 / 68.6 / 72.2 / 77.2 / 81.2 / 82.5 / 86.8 / 92.8 / 99.25	219.7 / 247 / 264.2 / 277.9 / 297.2 / 312.55 / 317.75 / 334.2 / 351.5 / 357.4 / 375.9 / 382.1 / 401.9 / 429.8 / 459.5
Gearbox Length L	mm	17.55	21.85	26.15	30.45
Rated Permissible Torque	kgf·cm	4.0	5.0	7.0	9.0
Instantaneous Permissible Torque	kgf·cm	8.0	10.0	20.0	26.0
Efficiency	%	90%	80%	73%	66%
Housing Material	—	Steel	Steel	Steel	Steel
Gear Material	—	Steel	Steel	Steel	Steel
Output Shaft Bearing	—	Ball bearings	Ball bearings	Ball bearings	Ball bearings
Radial Load	kgf	≤ 1.6	≤ 1.6	≤ 1.6	≤ 1.6
Axial Load	kgf	≤ 0.5	≤ 0.5	≤ 0.5	≤ 0.5
Radial Clearance	mm	≤ 0.04	≤ 0.04	≤ 0.04	≤ 0.04
Axial Clearance	mm	≤ 0.2	≤ 0.2	≤ 0.2	≤ 0.2

Backlash — No Load	°	≤ 1.5	≤ 1.5	≤ 1.5	≤ 1.5
Max. Continuous Input Speed	rpm	≤ 8000	≤ 8000	≤ 8000	≤ 8000
Operating Temperature	°C	−40 to 120	−40 to 120	−40 to 120	−40 to 120